

October 22, 2015

John Ellis
Arcadis Baton Rouge
10352 Plaza Americana Dr.
Baton Rouge, LA 70816

RE: Project: Grenada MS
Pace Project No.: 2027354

Dear John Ellis:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melissa MacNaughton
Melissa.MacNaughton@pacelabs.com
Project Manager

Enclosures

cc: Julia Daigle, Arcadis
Marie Heap, Arcadis Baton Rouge



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Grenada MS

Pace Project No.: 2027354

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):

02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-

00119

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SAMPLE SUMMARY

Project: Grenada MS

Pace Project No.: 2027354

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2027354001	VAP-10-GW (16-17)	Water	10/20/15 08:10	10/21/15 08:05
2027354002	VAP-10-GW (20-21)	Water	10/20/15 09:00	10/21/15 08:05
2027354003	VAP-10-GW (25-26)	Water	10/20/15 09:41	10/21/15 08:05
2027354004	VAP-10-GW (30-31)	Water	10/20/15 10:00	10/21/15 08:05
2027354005	VAP-10-GW (35-36)	Water	10/20/15 10:34	10/21/15 08:05
2027354006	VAP-10-GW (45-46)	Water	10/20/15 12:01	10/21/15 08:05

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SAMPLE ANALYTE COUNT

Project: Grenada MS

Pace Project No.: 2027354

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2027354001	VAP-10-GW (16-17)	SM 3500-Cr B	JMA	1
2027354002	VAP-10-GW (20-21)	SM 3500-Cr B	JMA	1
2027354003	VAP-10-GW (25-26)	SM 3500-Cr B	JMA	1
2027354004	VAP-10-GW (30-31)	SM 3500-Cr B	JMA	1
2027354005	VAP-10-GW (35-36)	SM 3500-Cr B	JMA	1
2027354006	VAP-10-GW (45-46)	SM 3500-Cr B	JMA	1

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ANALYTICAL RESULTS

Project: Grenada MS

Pace Project No.: 2027354

Sample: VAP-10-GW (16-17)		Lab ID: 2027354001		Collected: 10/20/15 08:10		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:10	18540-29-9	M1	
Sample: VAP-10-GW (20-21)		Lab ID: 2027354002		Collected: 10/20/15 09:00		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:10	18540-29-9		
Sample: VAP-10-GW (25-26)		Lab ID: 2027354003		Collected: 10/20/15 09:41		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:10	18540-29-9		
Sample: VAP-10-GW (30-31)		Lab ID: 2027354004		Collected: 10/20/15 10:00		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:10	18540-29-9		
Sample: VAP-10-GW (35-36)		Lab ID: 2027354005		Collected: 10/20/15 10:34		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:12	18540-29-9		
Sample: VAP-10-GW (45-46)		Lab ID: 2027354006		Collected: 10/20/15 12:01		Received: 10/21/15 08:05		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
Chromium, Hexavalent Preserved		Analytical Method: SM 3500-Cr B							
Chromium, Hexavalent	ND	mg/L	0.010	1		10/21/15 13:12	18540-29-9		

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QUALITY CONTROL DATA

Project: Grenada MS

Pace Project No.: 2027354

QC Batch: WETA/7687

Analysis Method: SM 3500-Cr B

QC Batch Method: SM 3500-Cr B

Analysis Description: Chromium, Hexavalent by 3500

Associated Lab Samples: 2027354001, 2027354002, 2027354003, 2027354004, 2027354005, 2027354006

METHOD BLANK: 168388

Matrix: Water

Associated Lab Samples: 2027354001, 2027354002, 2027354003, 2027354004, 2027354005, 2027354006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	ND	0.010	10/21/15 13:10	

LABORATORY CONTROL SAMPLE: 168389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.2	0.20	101	90-110	

MATRIX SPIKE SAMPLE: 168391

Parameter	Units	2027354001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	ND	.25	ND	0	75-125	M1

SAMPLE DUPLICATE: 168390

Parameter	Units	2027354001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/L	ND	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Grenada MS

Pace Project No.: 2027354

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Grenada MS

Pace Project No.: 2027354

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2027354001	VAP-10-GW (16-17)	SM 3500-Cr B	WETA/7687		
2027354002	VAP-10-GW (20-21)	SM 3500-Cr B	WETA/7687		
2027354003	VAP-10-GW (25-26)	SM 3500-Cr B	WETA/7687		
2027354004	VAP-10-GW (30-31)	SM 3500-Cr B	WETA/7687		
2027354005	VAP-10-GW (35-36)	SM 3500-Cr B	WETA/7687		
2027354006	VAP-10-GW (45-46)	SM 3500-Cr B	WETA/7687		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Arcadis Baton Rouge	Report To:	George Cook	Attention:	Accounts Payable
Address:	10352 Plaza Americana Dr.	Copy To:	John Ellis / Steven Sharp	Company Name:	Arcadis
Email:	John.Ellis@Arcadis.com	Purchase Order #:		Address:	10352 Plaza Americana Dr., Baton Rouge, LA 70816
Phone:	225-252-1000	Project Name:	Grenada MS	Pace Quote:	
Requested Due Date:	5/31/2011	Project #:	100033073.0001.000004	Pace Project Manager:	Justin.Stock@pacelabs.cc
				Pace Profile #:	

Page: 1 Of 1

WO#: 2027354



ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	PRESERVATIVES										ANALYSES TEST	Y/N	Hexavalent Chromium	Residual Chlorine (Y/N)
			START	END		DATE	TIME		DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME				
1	Drinking Water	DW			WT	10/20/11	08:00	1														
2	Water	WT			WT	10/20/11	08:00	1														
3	Waste Water	WW			WT	10/20/11	08:00	1														
4	Product	P			WT	10/20/11	10:00	1														
5	Soil/Solid	SL			WT	10/20/11	10:00	1														
6	Oil	OL			WT	10/20/11	10:00	1														
7	Wipe	WP			WT	10/20/11	10:00	1														
8	Air	AR			WT	10/20/11	10:00	1														
9	Other	OT			WT	10/20/11	10:00	1														
10	Tissue	TS			WT	10/20/11	10:00	1														
11					WT	10/20/11	10:00	1														
12					WT	10/20/11	10:00	1														

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		TEMP in C		Received on		Samples	
X 10 sample collected 40-41		Pace Lab		10/20/11		08:00		Pace Lab		10/21/11		08:00		23		23		N/A	
49-50																			
SAMPLER NAME AND SIGNATURE										DATE Signed:									
PRINT Name of SAMPLER:																			
SIGNATURE of SAMPLER:																			



Sample Condition Upon R

1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Proj

WO#: 2027354

PM: MM1

Due Date: 11/04/15

CLIENT: 20-ARCADISGM Arcadis Baton

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☒ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals Intact: ☐ Yes ☒ NoThermometer
Used:

- ☐
- Therm Fisher IR 5
-
- ☐
- Therm Fisher IR 6
-
- ☒
- Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining
contents: 10-21-15 AB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____